NASA Procedural Requirements

NPR 2570.1C
Effective Date: September 22, 2014
Expiration Date: September 22, 2019

COMPLIANCE IS MANDATORY

Printable Format (PDF)

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Subject: NASA Radio Frequency (RF) Spectrum Management Manual

Responsible Office: Human Exploration and Operations Mission Directorate

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Chapter 5 NASA Long-Range Spectrum Planning

5.1 Background

5.1.1 The NASA Director of Spectrum Policy and Planning is responsible for the planning of long-term national and international spectrum management initiatives aimed at improving the spectrum management environment within which NASA operates. The National and International Spectrum Program Managers are responsible for implementation of these initiatives. For instance, in cases where new frequency allocations or changes to the national and international radio regulations are required, lead times of more than a decade may be necessary since periodic ITU conferences that are competent to make such changes are usually limited in scope. For this reason, and to permit NASA to continue to operate in compliance with section 1.2 of this NPR, the National and International Spectrum Program Managers must be made aware of new concepts, which may require spectrum support with sufficient time available to accomplish such changes.

5.1.2 Considering typical design and construction periods, it is essential that appropriate spectrum be allocated a minimum of five years prior to the anticipated launch dates for all Agency missions. Since new allocations may take as many as ten years to realize, it is essential that the National and International Spectrum Program Managers be informed of new mission concepts as early as possible so that appropriate allocation initiatives may be identified.

5.2 Long-Range Planning

5.2.1 General

a. The Director of Spectrum Policy and Planning maintains a long-range spectrum forecast in order to identify needed spectrum management initiatives in a timely manner. All dates are driven by the projected launch dates of particular missions and the need for any radio spectrum (national or international). The information is used by the NTIA as well as NASA to determine if additions/changes are required to agendas of World Radiocommunication Conferences (WRCs).

b. NASA expects that most mission RF EM spectrum needs will be satisfied by existing allocations. However, for some missions, changes in international agreements and national regulations may be required to support new and entirely unique operations in the future (such as operations on or in the vicinity of the far side of the Moon or for disruption tolerant radio protocols for use on terrestrial or space applications). To this end, the long-range spectrum forecast attempts to identify dates at which consideration of these matters needs to be completed if NASA is to operate in an interference-free environment.

5.2.2 Mission Directorate Responsibilities

a. For future Agency missions, it is the responsibility of each NASA Mission Directorate, through the SCaN Board of Directors, to provide the latest conceptual communications requirements to the Director of Spectrum Policy and Planning in respect to programs and future mission concepts for which they may have cognizance. This information should be provided from the inception of the conceptual mission and updated as the program evolves. The Director

of Spectrum Policy and Planning will provide an assessment of the spectrum requirements in consultation with the concerned program office and the National and International Spectrum Program Managers and cognizant Center Spectrum Managers with sufficient lead-time to allow appropriate regulatory action.

b. Each Headquarters Mission Directorate should provide updated mission concepts and new anticipated launch dates to the Director of Spectrum Policy and Planning via direct consultation or via the SCaN Board of Directors.

5.2.3 Center Responsibilities

a. For future Agency missions, it is the responsibility of each Center/Facility Spectrum Manager to provide the latest conceptual communications requirements to the National and International Spectrum Program Managers, with respect to projects and future mission concepts for which the Center may have cognizance. This information should be provided from the inception of the conceptual mission and updated as the project evolves. It is the responsibility of each Center/Facility spectrum manager to provide semiannual updates.

b. The National Spectrum Program Manager will provide an assessment of the spectrum requirements in consultation with the Center and the International Spectrum Program Manager with sufficient lead time to permit appropriate regulatory action.

c. The Center/Facility Spectrum Manager of the originating project is responsible for obtaining the RFA and has the overall spectrum responsibility and coordination at the execution site. Any alteration or changes to the RFA that might be necessary will be coordinated between the RFA owner and the execution site Center/Facility Spectrum Manager.

d. Each Center should provide updated mission concepts and new anticipated launch dates to the National Spectrum Program Manager via direct consultation or via the NASA Spectrum Managers Group annual meeting.

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